Native plantations as the mainstay of agricultural policy (1918 - 40)

657 179 After the 1914-18 war, a shortage of labour, low produce prices and high shipping costs made it very difficult to attract European settlers to Papua. The emphasis of agricultural policy was therefore shifted and indigenous agriculture was seen as the only hope for the future. "If we cannot attract capital to develop the Territory", the Lieutenant-Governor wrote, "we must develop it without capital - that is, by native agriculture" (P.A.R. 1921-2 : 6). He saw two particular advantages in native agriculture over European; it did not require hired labour and it did not require large amounts of capital. It was clear the country would not be developed by the few European plantations then in operation (with a planted area of about 61,000 acres in 1923) and for the next decade at least Murray gave great emphasis to the development of "native plantations".

245 249 657 [466] In the Northern District[1] there had been little planting under the regulations since the turn of the century, but with the outbreak of the first world war the Resident Magistrate gave priority to expanding output by the compulsory planting of coconut, rubber and citrus trees, and 10,000 coconut and other economic trees were planted in 1914-15 under the direct supervision of patrol officers (P.A.R. 1914-15 : 49). By 1921 there were 46,404 coconut trees in the Orokaiva area but over half (25,642) had been planted within the previous five years. Almost all the rubber trees had been planted in the previous five years (P.A.R. 1920-1 : 48-50).

657 241 Although the regulations did not prescribe that planting was to be either by individuals or groups, in all the post-1914 instances we are aware of in the Orokaiva area, each village or cluster of villages was in fact directed to plant as a

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(1) The Orokaiva area was included in the Buna and Kokoda Districts of the Northern Division until 1909, then in the Kumusi Division until 1920, and in the Northern Division (later termed the Northern District) since 1920.

423 procedures for determining and recording titles were amenable to local regulation and adjustment by the institution conducting the registration. This does not mean that more than one type of right need be guaranteed or that security of title is unimportant.

657 423 A registration scheme would function best as a mechanism for resolving uncertainties over landrights in other areas where it could enhance the productivity of large blocks of land by rationalising the overlapping claims of members of 2 or more clans. Due to the extensive fragmentation and subdivision of group territories around Sivepe and the restrictions which have been imposed on the scale and range of the past movements of groups, there were no [578] apparent conflicts in the locality over rights at the clan branch level. The current incidence of interpersonal disputes affected only a few small parcels and did not seem to be a persistent obstacle to productivity.

[425] The question is now of reduced significance as the Higaturu Council scheme has been superseded by more comprehensive provisions for land tenure conversion. Nevertheless, registration of permanent individual rights, whether on a person's own land or another's, is desirable in order to preclude disputes which might otherwise arise once the value of the land is increased by the introduction of permanent improvements in the form of cash crops.

121 [171] We contend that it is legitimate to extrapolate our local information by assuming extensive social and cultural uniformity among the mountain Orokaiva. Analysis of tenure practices and territorial organization of Sivepe groups shows that in important respects the landholding systems resemble those characteristic of certain closely-settled unilineal communities of which Chimbu might be considered the type. We therefore maintain that modern mountain Orokaiva land tenure and local organizati- differ considerably from the model introduced in outline by Williams in his original monographs (1925, 1928, 1930).

179 423 Finally, we wish to indicate the general significance of the type of council scheme for land registration discussed here, and this is best done by quoting at length from the report of the Mission from the International Bank. It claimed (1964:33) that solutions to land tenure problems in Papua-New Guinea would be found more readily if greater responsibility were placed 'on the native people, including the local Government Councils, to work out their own solution adapted to varying circumstances'.

This would not mean the recording of title under standard European procedures and would 'require comparative flexibility on the part of the credit organization designed to assist and stimulate native production. On this approach there could be much delegation of responsibility' among government staff and 'much

179 more active collaboration with local groups and leaders' (ibid:172).
423 The report discusses the Land Tenure (Conversion) Ordinance, which became law in 1964, noting (ibid:171) that the legislation requires that the Administration satisfy the preliminary conditions of 'complete inquiry about customary rights and agreement of all the holders of customary rights' before it can conduct the surveys and convert these rights to individual registered title free from any customary limitations.

The experience of the Native Lands Commission in surveying land and recording customary rights 'indicates that progress in the application of this legislation will almost certainly be slow' - too slow, the mission believes, for much progress to be made in implementing its recommendations for economic development (ibid.).

It recommends 'a more flexible approach' to the obstacles to change, posed by the traditional social matrix of land customs. The Administration could well 'encourage native groups to work out their own solution to obtaining individual ownership or control of the land within native customs. The local government councils could make a useful contribution to this difficult problem.'

c. Economic incentives

433 Mann (1954) concluded his report on the area by stating that the agricultural possibilities of rubber were very good but that

> it seems little short of a tragedy that the well-intentioned efforts to introduce it as a native culture in this area have come so close to complete failure, whilst the trees remain as a source of discouragement to further development of what may prove to be a worthwhile venture for the landowners of the district.

657 The policy of establishing rubber stands under the Native
433 Regulation was well-intentioned but, as Humphries points out (1944:4), it was implemented by a single overworked man. The people of the district may well have questioned the point of having 'useful trees' when the initial forced plantings were not followed up with the provision of extension, processing or marketing facilities. Although they eventually received a small income for little effort when a local planter put this idle capital to some use, there have never been facilities designed specifically for local needs.

Belshaw maintained that even while receiving this income the people were unhappy with the scheme, not simply because they judged the price they received unjust, but because they felt it was 'wrong that somebody else should be able to exploit their own resources' (1951:14). Moreover, they resented the withholding of payments and this has left lasting impressions.

[179] [654] [383] However, different proposals had already gained wide currency; whereas the Administration had previously refrained where possible from participating in the local development of rubber, agricultural extension services have been expanded in response to widespread renewed interest among the villagers and Department of Agriculture staff have recently established a factory near Ombisusu village on the scale considered suited for economic viability. It has an optimum capacity for the production of sheet rubber on smallholdings of 20 to 50 acres under high-yielding trees.

[425] Part of the programme at Ombisusu has been the redistribution of land for development as individual cash-crop blocks similar to the Yega cocoa project.[1] Demonstration of this development has undoubtedly further stimulated local interest in rubber. It is calculated that the problem of capital for investment in such a factory, a figure of the order of $240, might be met in the absence of sufficient village entrepreneurs by the co-operative ownership of facilities by a small number of neighbouring growers.

On the other hand the European who has been buying rubber from the villages believes that 6 smallholders, for instance, each with 6 acres, could be expected each to receive a net annual income on present prices of about $360 (after repaying a loan) only if the producer were to tap daily for 310 days a year on a semi-commercial standard and produce good quality sheet rubber without direct supervision from a fully qualified officer.

He envisages instead a pilot project which would involve the planting of about 100 acres with high-yielding seed at Sasembata, for instance, where the project 'would be partially financed by some 34 rubber areas now in bearing' and, having little overhead cost, 'could afford European supervision by subsidy from the Administration'. The new land might be made available on a co-operative basis; this should be developed by labour receiving 'a minimum basic wage and the unpaid value be credited as units held in shares', whereas the villagers tapping existing stands could sell the latex at the project centre on a poundage basis.

The Department of Agriculture's budget-planning, incorporating the possibility of small loans to producers, has been carried out on the understanding that all smallholdings should be held and worked by an individual or nuclear family.

[435] Establishment costs might be reduced if the building standard were to be lowered judiciously, if standard agricultural equipment

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[1] The participants in these schemes were reported to be keenly interested in the possibility of receiving registered title under the Land Tenure (Conversion) Ordinance, 1964.

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is already in use and if, as is hoped, high-yielding seeds become available at a much lower cost.[1] The returns may be higher than this estimate since the prospective yields per acre in the area are very good. Participants would be encouraged to plant on contiguous areas near the factory. The extent to which this could be done without requiring measures such as consolidation of holdings would depend on the minimum number who could operate the facilities economically and on the area within which men could be found who were prepared to invest capital and time and to wait for returns.

The possibilities of extending such pilot schemes and of rationalizing land claims for use in cash cropping in general would be enhanced if a redistribution of the limited and fragmented land resources among the more progressive individuals could be effected quickly and economically through a consolidation scheme promoted largely by villagers themselves. Members of 2 clan branches in the neighbourhood, who claimed a remote historical link, expressed to us their desire to abandon the system of gardening in isolated places and to develop their land on a co-operative basis but the plan had not been at all thoroughly thought out. However, adjustments along the lines of the scheme which was introduced by Hohorita (another village in the council area) but which did not receive the Administration's immediate backing, would provide a valuable basis for the extension of cash cropping.

If the capital can be found and if there is a successful outcome to the plan to capitalize on current enthusiasm to promote small holdings of rubber (which promises the best returns to village producers), this could be a significant step towards providing individual producers with new scope for initiative. Although technical supervision and extension services would be necessary, such a development plan would avoid the situation which Keesing (1951:12) believed would accompany the development of village agriculture in the area - 'as in socio-political affairs... the responsible organization and leadership would have to be provided from outside, with the dependence relationship which this implies'.

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[1] At present these seedlings are sold at 2 shillings each from the nursery at Ombisusu.

8: Waddell & Krinks E-4,5 (1964-1965) 1968 OJ23 Orokaiva OJ23

525 the losers. Villagers may also lose a fair proportion of their cash income through gambling.

461 (vi) The use of cash. Income is used for settling obligations, direct consumption and capital savings. The first includes taxes to the local government council, contributions to the mission and marriage payments. These occur only occasionally, but their size may require that an individual seek wage employment or harvest his cash crops with the specific purpose of meeting such requirements. The heaviest demands coincide with and immediately follow the [65] period of most intensive cash crop production. Between about [623] March and July the Higaturu Local Government Council collects its [197] annual tax of $6 per adult male and $2 per female. During the latter half of the year, the Anglican mission seeks contributions [436] to its Papuan Church Fund, in some areas recommending gifts of $4 by men and $2 by women. Cash also circulates among villagers in the form of small gifts as part of the 'normal' exchange pattern.

366 Most villages are within half an hour's walk of trade stores and during the dry season in particular, distinct recourse is made to them for food. Only very small sums are paid out at markets or to hawkers.

454 Opportunities for investing savings occur with two local companies, Oro Ltd and the OCCS, and with the major savings banks through their agencies. In spite of a required minimum shareholding of $5 and $10 respectively, the first two have elicited considerable support and are preferred to savings accounts because interest on the latter is considered too small.[1] In addition to shares, a considerable amount of money is tied up in village or clan savings accounts but there are few instances of this money being used to benefit the group.

244 Apart from the few trade stores and coffee pulpers, little income is invested in large capital equipment. Herein, perhaps, lies the [171] anomaly of commercial agriculture in the Northern District. In spite of the long record of experimentation with various forms of work organisation and tenure (admittedly, largely directed from outside), the degree of economic development remains low when compared with the Gazelle Peninsula or parts of the Eastern and Western [493] Highlands Districts. The proportion of cash croppers among villagers is lower, as are the actual incomes derived from cash cropping and there are no locally-owned vehicles (except those of ex-servicemen settlers). Nevertheless, interest in commercial agriculture is

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[1] One expatriate planter who operates a savings bank agency expressed concern that withdrawals had exceeded deposits for the twelve months preceding mid-1964. He believed that the money was being used principally to buy shares in Oro Ltd.

8: Waddell & Krinks E-4,5 (1964-1965) 1968 OJ23 Orokaiva OJ23

121 subsistence societies those activities which provide the mechanism for exchange are generally excluded since it is assumed that the exchanges are of little economic significance. As will be demonstrated such an assumption is of doubtful validity.

In societies where labour is not specialised and subsistence production dominates, the social and economic threads are closely interwoven. All actions may be considered economic in that they are concerned with the 'maximisation of satisfactions',[1] while the close association of the networks of kin with processes of production, distribution and consumption precludes the drawing of a clear distinction between work and leisure. While the term productive is a useful parameter as applied particularly to material life and in contrasting the nature of the involvement in the subsistence and external sectors of the economy, it comprises only part of the total economy. Production and labour in traditional societies must be considered as an integral part of this broader system, perhaps following Conklin (1957:152) who stresses that Hanunóo 'mixed swidden farming...constitutes a pattern for living rather than only a means of making a living or a source of food or cash income'.

There is a complexity of motives underlying the various activities and to suggest that work is oriented simply towards obtaining material goods and achieving subsistence is to grossly misrepresent the situation. 'The pleasure of craftsmanship, the feeling of emulation, the desire for public approval, the sense of duty towards the community, and the wish to conform to custom and tradition, all these and more find outcome in economic action.' (Firth 1959:175.) The point is not simply one of theoretical significance[2] but is of considerable relevance to a consideration of the development potential in these communities, and it is with this in mind that attention here is directed to the whole range of village activities.

● 171 433 The IBRD report on 'The Economic Development of Papua and New Guinea' considers efforts should be directed primarily to the exploitation of the two major resources of land and labour, and states (1965:40) that

[464] The mobilization of unskilled indigenous labour for development should not be difficult; the manpower potential is large and there is evidence that many more workers could be recruited for wage employment than are now at work.

121 464 The thesis that a potential surplus of labour is concealed within the New Guinea subsistence economy has been developed by Fisk. While the data which follows vindicates his main argument, two

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1 See Burling 1962.

2 For a detailed discussion of this see Steiner 1957.

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Table 8:1

Sivepe and Inonda: some contrasts in activity patterns
(hours per man-week)

	Sivepe	Inonda
Clearing	2.9	3.7
Subsistence gardening	13.2	11.7
(of which: taro gardening	9.1	6.6)
Other subsistence food production	2.5	7.8
(of which: fishing	0.2	3.8
hunting	1.8	2.0
sago-making	0.4	1.2)
Construction	1.6	2.0
Total - subsistence sector	30.0	33.5
Cash-producing	3.2	3.7
(of which: cash cropping	1.6	1.0
paid work	1.6	2.7)
External agencies	5.8	3.2
(of which: meetings	1.3	0.3
church work/ services	3.0	1.0)
Total - external sector	10.7	10.0
Total*	40.6	43.5

* A 't' test was applied to the mean weekly figures, to provide some measure of the significance of difference between the mean level of activity in the two samples, using the equation

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s'} \sqrt{\frac{N_1 N_2}{N_1 + N_2}}$$

where s' = the standard deviation of the population. t was computed to be 1.98; the means for the two samples are, therefore, significant at the 5 per cent level.

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and was largely connected with the improvement of the Popondetta-Oro Bay road which passes by the village. In Sivepe both are of equal significance. While one girl was in permanent employment, she had assumed no major subsistence responsibilities, was single and, during the course of the survey, left the village to reside on the mission station adjacent to her place of work.

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In each case several cash crops are grown, all of them tree crops. To some little attention is given (e.g. coffee in Inonda) while to others effort is restricted essentially to harvesting and the subsequent processing and marketing of the harvested product (e.g. coffee and rubber in Sivepe, coconuts in Inonda). Further

8: Waddell & Krinks E-4,5 (1964-1965) 1968 QJ25 Orokaiva QJ25

433 179 attempts are being made to expand and diversify cash cropping by planting more coffee and erecting a communal copra-drier in Inonda and establishing a communal garden in Sivepe. However, in all of them, serious problems have arisen or the venture has actually been abandoned. These facts point to a certain lack of direction and perception of the most appropriate techniques in the development of commercial agriculture.

(b) The relationship of subsistence to the external sector and the availability of surplus labour

433 178 Perhaps the most significant general conclusion to emerge from this survey of activity patterns is that the Orokaiva economy continues to be essentially tradition-oriented. Such monetary activities as exist seem to be additional to, and do not replace, subsistence activities. Although the two villages have, since contact, been incorporated into a wider system, individual participation in it remains essentially passive. There is now a real need for money, and for the products that money can buy, and commercial production within the village is perceived as one way of satisfying these needs. Because of the people's familiarity with cash cropping, and of the under-utilisation of available labour, it is not easy to see why it should not have been more extensively adopted.

There is plenty of evidence that the villages continue to be tradition-oriented. In particular, there is little suggestion of 's reduction in the acreage under subsistence crops, a narrowing of the normal range of good crops and changes in their relative importance' or 'of a reappraisal of the agricultural value of different types of land and soil' or of 'the movement of whole villages to new sites...the movement of individuals from villages which are poorly located for commercial farming to those which are more favourably situated...[and] the departure of individuals or nuclear families from the village to become independent farmers' as have been indicated by Ward (1964:487-93) in the case of Fiji. No distinct socio-economic groups have emerged at the village level. By contrast, in a recent study of village agriculture in Aitutaki, Cook Islands, three economic groupings are identified - the gardeners, gardener-employees (those with part-time jobs) and employee-gardeners (holding full-time positions) - this breakdown in the homogeneity of the communities being considered as one measure of the degree of commercialisation of the economy (Johnston 1967:36-8 and 91-3). Finally, there is as yet no evidence of individual specialisation where 'The planter restricts and narrows his activities in two directions: he concentrates upon agriculture to the exclusion of non-agricultural activities and on cash crops to the exclusion of non-cash crops' (Johnston 1967:60).

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361 178 166 Rimoldi, in investigating the recent history of settlement among the Mt Lamington Orokaiva (1966:39-47 and 65-70), distinguishes

Two largely unrelated agricultural systems are practised side-by-side, with cash cropping (or the alternative cash-producing activities) utilising labour time surplus to the requirements of the subsistence sector. Productivity in both types of production is low and, furthermore, any expansion in cash cropping is not necessarily paralleled by an increase in productivity or reduction in subsistence agricultural activities. 433

The Administration's extension policy is concerned both with 'raising the level of subsistence in the villages' and 'introducing the economic means of supporting a higher standard of living (DASF 1959). While such a policy might promote development with the least possible risk to the producer, it has a direct bearing on both the quality and degree of individual involvement in commercial activities. [654]

One agricultural extension officer has noted that 'The subsistence farmer's involvement in cash-cropping has...added to the complexities of his decision-making and lays increasing emphasis on his role as a farm manager. He now has to make more complex decisions and choices about what to produce, how to produce and how much to produce' (Reed 1966). Individual specialisation is, effectively, discouraged because the mechanism is not being developed for an exchange of subsistence produce which might permit some people to concentrate exclusively on cash crop production. Problems of a lack of technical knowledge and equipment are intensified in situations where cash and subsistence cropping are pursued simultaneously. The essential homogeneity of the village remains therefore largely unimpaired. The nature of the people's contacts with the external economy and the expatriate community only serves to reinforce it. These contacts are few and tend to be formal and innovations only permeate through with difficulty. Villages tend to be isolated from the main centres of expatriate activity and, in consequence, people find it difficult to participate in those cash-producing activities, such as wage labour, which provide a regular source of income. The basic functional discontinuity between Orokaiva village and expatriate settlement tends to sustain a situation where money is used primarily to exchange 'exports' for 'imports' and has little impact on the rest of the village economy; while the apparent control which expatriates exercise over all successful economic diversification and other developments tends to discourage initiative within the village. [178]

The problem of stabilising the world market situation for cash crops, or at least of cushioning the producer from the price fluctuations, cannot easily be resolved, but some of the other problems are amenable to direct intervention.[1] Given their long and mixed [179]

[1] As exemplified by the apparent success of the Ombi-Tara scheme (see Morawetz 1967).

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that the European exchange partner did not have a great deal to offer the Orokaiva, because not even money was essential. Conversely, the fear of the trouble the white man might cause was not so great as one might suppose. Certainly, there were horrifying stories about what the white man might do if angered, but the Orokaiva had since learned some simple rules telling them how such anger could be most conveniently evaded.

Until World War II, the relationship between the Orokaiva and the government followed this general pattern almost entirely. The government made the regulations and the Orokaiva did the unavoidable minimum. World War II began to change the pattern of this partnership. Australian and American soldiers moved into the Northern District to drive out the Japanese. They camped in the bush, they shared their food with the Orokaiva, they accepted Orokaiva hospitality, they generously distributed what supplies they had to spare. The white soldier, unlike the civilian, lived in a style much closer to what the Orokaiva consider human. He laughed and joked in the presence of the Orokaiva; he put on no colonial pretense.

After the war, the Australian government changed its policy in the territory, suppressing corporal punishment of employees, emphasizing economic development in the villages, improving schooling, introducing local self-government on a limited scale (and later political representation in the House of Assembly), offering Papuans jobs of some responsibility, and discontinuing the type of village policing that made all reforms dependent on the enforcement of regulations. The village constables, whose job was in practice confined to reporting infractions of the regulations, were replaced by elected officials (local government councillors) who are indoctrinators rather than policemen. They harangue the people with a diffuse message covering a wide area of social and economic development. They seek to secure acceptance for new ideas, so that people will genuinely believe in the usefulness of changes they are making.

When I visited the Orokaiva in 1966–1967, I found a great deal of ideological discussion, the key concept being *iji eha* ('the new day, the new age')—a new way of life based on the economics of coffee growing and wage earning, the social amenities of improved villages, school education, Christianity, avoidance of violence, and, generally, cooperation with the mission and administration. I

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was amazed to see how closely the councillors' harangues and other speechmaking in the villages corresponded to official policies. Many of the advocated ideas were not being put into practice, but generally the transition seemed rather smooth. There were conflicts between the Orokaiva and their mentors, in some instances irreconcilable ones, but it seemed that consideration of these conflicts was being deferred because there was evidence of steady improvement, as long as coffee prices would only keep rising.

Informants, when asked when the 'new age' had started, all replied that it was after the Japanese were driven out. The eruption was never mentioned as the beginning of the 'new age'. It was after the war that the money economy became important and men began to take jobs outside the village for protracted periods. It was then that money became a necessary part of bridewealth so that, as an initiatory ritual, every young man had to have earned some. It was after the war that village improvement started seriously, as the history of individual Orokaiva villages shows.

The eruption of Mount Lamington in 1951 came a few years after these beginnings, at a time when the impact of money was not yet great, though the government and mission had had time to communicate the new order they sought to establish and to press for changes the Orokaiva were not too ready to accept. The eruption strengthened the message. On the transactional level, there was the large-scale help offered by the Europeans after the eruption. This was done in the most dramatic way possible, by planes dropping their riches in great abundance shortly after the disaster. Certainly such a massive display of concern in a moment of need did much to enhance the image of Europeans as desirable exchange partners. This display was followed by the organization of the camps and by the widespread introduction, especially at Ilimo Camp, of activities that were symbolic of the 'new age'.

Daily church services were conducted, all children were given regular schooling, adults were educated in a number of new agricultural and technical skills, good medical services were provided, and regular food and clothing distributions continued. New ideas on housing, village layouts, and women's handicrafts, lectures on how trade goods are manufactured in Australia, the presence of a strong development-oriented and numerous European staff—all these elements must have amazed the Orokaiva villager of 1951,

whose contact with this aspect of European culture heretofore had been rather slight. The impact of these intensive programs should not be overestimated, however. For people whose world had been shattered by disaster and relocation, adult education was, according to administrators involved in the program, hardly a major concern. Belshaw (1951) expressed the view that the villagers would agree to almost any reform in their villages, as long as they would be allowed to leave Ilimo quickly and return to their land.

Nonetheless, the terms of the exchange relationship between administration and mission on the one hand and the Orokaiva on the other had become a great deal clearer and more profound. The Australians had made gifts and had stated what they wanted from the Orokaiva in detailed, explicit terms. Furthermore, this had been done under the shadow of a calamity which was interpreted by the mission as a sign of God, if not God's punishment, indicating the dangers of not satisfying the Orokaiva's new exchange partners.

The administration has leveled much criticism against the mission for promulgating the theory that the eruption was a visitation of the wrath of God. Numerous instances are quoted of ecclesiastical blackmail: the bishop allegedly threatened to blow up the mountain a second time unless he was obeyed. The bishop denies these allegations and claims to have discouraged the belief that the eruption was a divine punishment of the (largely unbaptized) Orokaiva. He said it was the Orokaiva themselves who had this idea of retribution.

To explain the Orokaiva idea of the anger of God found in the preceding pages, I have brought together a somewhat haphazard collection of signs which make no sense if arranged in a synchronic pattern. They are a sequence of transactions which took place within the colonial macrosystem and were selected on no other grounds than that they were commonly invoked by Orokaiva in discourse about the 'new age'. Soldiers on punitive expeditions, physical punishment at the plantations, the warm exchange relations with Allied troops, the local government councils viewed as a gift from the whites to the Papuans—all these are random selections from history and owe their place in the analysis of the metalanguage to the fact that the Orokaiva commonly used them to signify the opposition 'old order/new age'.

Earlier in this section, I explained the idea of the 'anger of Sum-

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administrators, accustomed to secure forms of land tenure in their own culture, could not fully share the Orokaiva anxiety about losing their land.

This conflict between people and administration was settled amicably. It did, however, emphasize the fundamental difference between Orokaiva and European perceptions of the crisis. For the Orokaiva, it was the relatives—the holders of residual rights to land—who were viewed as the greatest danger, whereas the volcano was soon considered less dangerous. For the European, the relatives were not perceived as dangerous, as it was imagined they could somehow be controlled by the legal weapons available to centralized government. On the other hand, the danger of the volcano was viewed far more gravely, for the Europeans knew of no way to control future eruptions.

Both sides had a strong case in this disagreement. The Orokaiva had a strong case because the Europeans had no institutions that could have protected them against encroachments on their land. There was (and is) no adequate registry. The administration's case rested on its logical consistency with the development ideology it was trying to inculcate. The traditional Orokaiva land tenure system is incompatible with development because it impedes spatial movement and the traditional extended exchange network lacks the flexibility of a market system. Modernization depends on the creation of large corporate groups with well-defined systems of rights and obligations, instead of the subtle but essentially unstable web of warfare, diplomacy, affinity, and friendship. The 'new age' ideology of 1951, though fortified by the experience of the eruption, did not envisage modernization in this basic sense, while in 1966–1967 the implications of the 'new age' for land tenure and the kinship system were just being discovered.

This analysis of the 'new age' ideology indicates that it is related only loosely to social and economic development. It arises directly out of political competition between the Orokaiva, the mission, and the government. Whenever new techniques appear to the Orokaiva to serve this power struggle, their adoption is advocated. We have seen that a traumatic event such as the eruption of Mount Lamington, when it became the subject of Orokaiva philosophizing, was at once put at the service of this competitive struggle. Even when obedience to ecclesiastical and administrative rules is advocated by the ideology—and when the dire conse-

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quences of disobedience are stressed by the ideology—such an attitude is viewed by Orokaiva not as part of a permanent new order but as a temporary expedient, a ploy in the power struggle.

Reform is advocated in terms of such strategy. Over the last fifteen years we have seen that the Orokaiva have begun to accept the idea of converting land titles to sole tenure, as well as the inevitable consequences of such conversion for kinship organization. Such changes are explained in ideological terms as a necessary part of the competitive struggle against Europeans. The fact that Europeans view the same move as serving the cause of social and economic development is almost a coincidence.

Perhaps the most important practical conclusion we can draw about the genesis of cognitive structures has to do with the nature of power competition between Orokaiva and the administration. It is often supposed that development and political competition are separate processes in conflict with one another. The case in question shows that the Orokaiva view both aspects as part of an ongoing exchange relationship. It will have been noticed that in political debate Papuans, especially those in the villages, are reluctant to seek immediate political independence from Australia, even though tensions clearly exist. The point here is that they like to see the exchange relationships with their Australian partners continue, even though they wish to improve greatly their own position in that relationship. It may be, of course, that this attitude will change later. In the exchange relationship their own very considerable prestation is their subordination to foreign authority. In return they are receiving educational benefits which they value highly—not, fundamentally, because these benefits increase their private incomes but rather because they maximize Orokaiva power in the exchange relationship.

In addition, the material presented here may have theoretical implications with regard to the genesis and dynamics of cognitive structures. We must distinguish here between macro- and micro-processes. For the purpose of the discussion, I have assumed that the Orokaiva world view, with its notions of exchange and power, remained unchanged between 1951 and 1966. This assumption was convenient for the analysis, but it must be qualified. In 1966 I was given geophysical explanations of the eruption as well as magico-religious ones, and the former (though feebly held by a small elite) do prefigure a basic structural change in the Orokaiva